Inclusive Mathematics Environments Small Group Meetings: Interdisciplinarity

student experience
RESEARCH NETWORK

Discipline

What is researched?

What can be known about it?

What is the approach to finding out?

information
techniques
methods
jargon
concepts
tools
theories
frameworks
models

Discipline <> Discipline

Multidisciplinarity

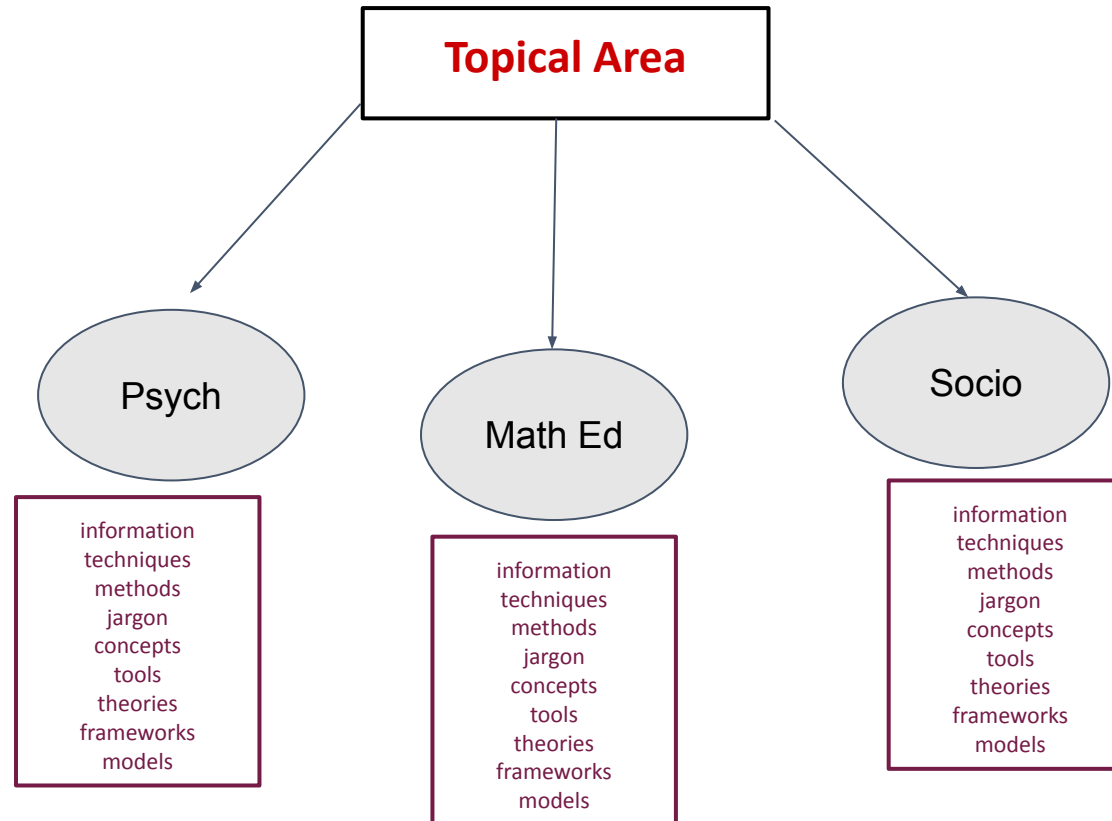*juxtapose, sequence, coordinate*

Interdisciplinarity

integrate, interact, blend

Transdisciplinarity

transcend, transform

Discipline <> Discipline

Multidisciplinarity → e.g., encyclopedic, contextualizing

juxtapose, sequence, coordinate
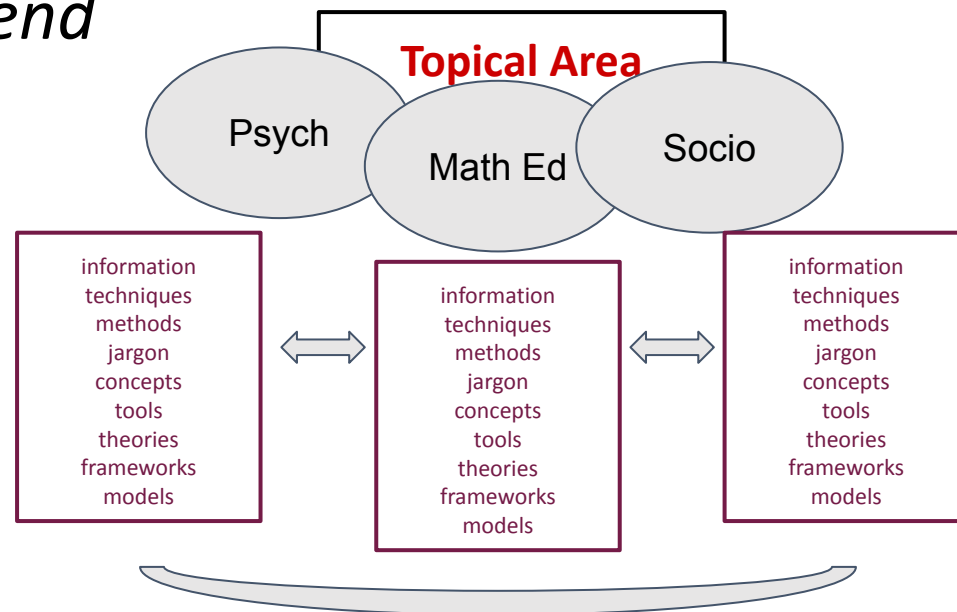
Discipline <> Discipline

Interdisciplinarity →

continuity between different disciplines' theories/models

core ideas of a discipline inform core ideas of another discipline

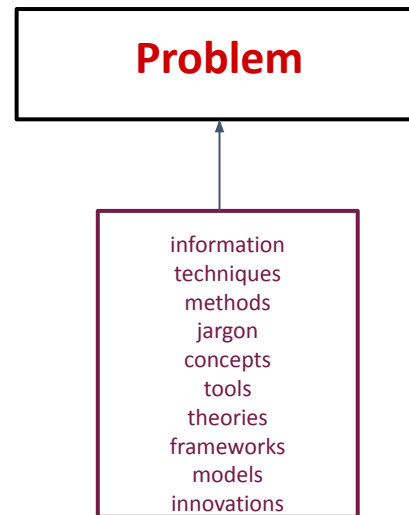**new (disruptive)** knowledge/arguments!

integrate, interact, blend

*What do we mean by '**bridging**'? You don't need to become an expert in another discipline, but you do need to develop deep understanding of a single topic across more than one discipline and/or methodological approach

Discipline <> Discipline

Transdisciplinarity → e.g., cure disease

Structural shift: new concepts, frameworks, theories, approaches to analysis, innovations, agnostic to specific disciplines or even the concept of disciplines; develop approaches to solve a problem

transcend, transform

Problem

information
techniques
methods
jargon
concepts
tools
theories
frameworks
models
innovations

*Challenge: Even defining a problem is typically socially and disciplinarily constructed

Further Reading

Aboelela, S. W., Larson, E., Bakken, S., Carrasquillo, O., Formicola, A., Glied, S. A., Haas, J. and Gebbie, K. M. (2007), Defining Interdisciplinary Research: Conclusions from a Critical Review of the Literature. *Health Services Research, 42*: 329–346.

Heckhausen, H. (1972). Discipline and Interdisciplinarity, *Interdisciplinarity: Problems of Teaching and Research in Universities*. Organisation for Economic Co-operation and Development.

Klein, J. T. (2010). A taxonomy of interdisciplinarity. *The Oxford Handbook of Interdisciplinarity*, 15-30.

Example of interdisciplinarity: social capital (sociology) and social identity (psychology)